

# CAUTION Bulletin

This Bulletin is being provided to you for review, analysis, and internalization as applicable.

**Title:** Mister Safety Hazards Identified

**Date:** April 3, 2006

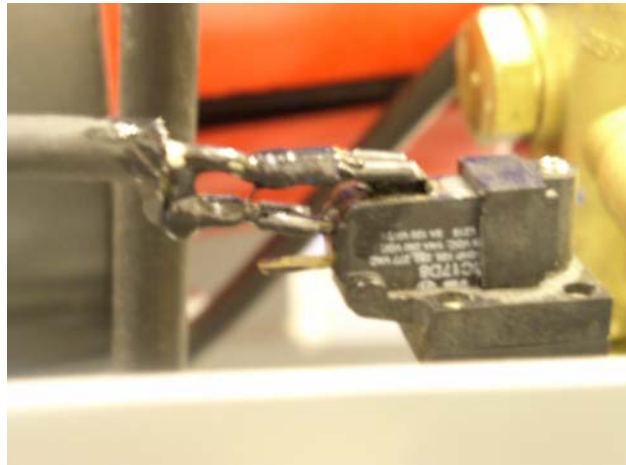
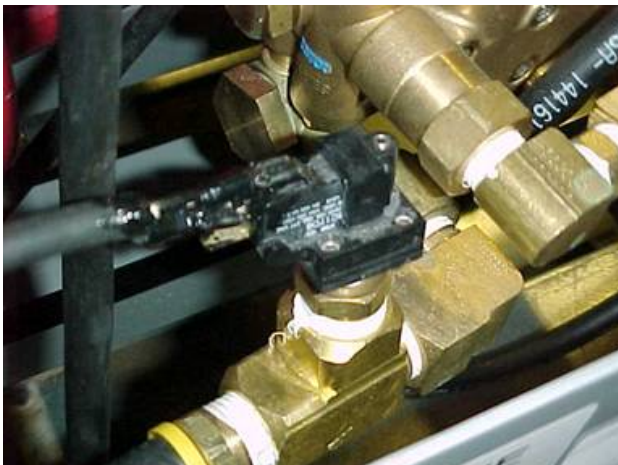
**Identifier:** 2006-RL-HNF-0008

**Lessons Learned Summary:** CoolZone misters, shown at right, have been received with electrical and mechanical deficiencies that could pose safety hazards. They had an inadequately insulated pressure switch and discharge valves not rated for normal operating pressure.

**Discussion of Activities:** The Solid Waste Storage and Disposal (SWSD) Project at Hanford procured a number of water supplied mister fans from CoolZoneUSA, Las Vegas, NV, to cool personnel during hot weather. While units were undergoing mounting and initial operational testing, SWSD personnel discovered that the installed ball valves on the high pressure side were rated for only 600 psi but operating procedures call for adjusting pressure of the unit to 1,000 psi. The valves were replaced with 2,000 psi stainless steel ball valves.



Waste Receiving and Processing Facility (WRAP) personnel discovered an exposed 120-volt termination on a pressure switch, shown below, that was insufficiently insulated on the units. Some type of paint or other coating was apparently used to cover a spade lug termination after it was installed. Electricians measured only 1 ohm of resistance across the material, an inadequate value to prevent an electrical shock. WRAP Electrical Engineering contacted the manufacturer who indicated that they (Cool Zone) had installed an incorrect pressure switch. They sent seven replacement pressure switches with enclosures to repair the defective switches on the units at Hanford.



**Analysis:** At the time of receipt of the units, only the WSD Project on the Hanford Site had ordered and received any of the CoolZone fans. To ensure that appropriate manufacturer corrective actions have occurred, any facilities ordering CoolZone fans should inspect their units for similar problems.

Besides the obvious safety hazard from the pressure switches, lack of listing/labeling by an OSHA-recognized nationally recognized testing laboratory (NRTL) is an issue with this equipment. Although some parts are UL-Labeled, the appliance is not labeled as an assembly.

**Recommendations:** Any facilities with CoolZone fans should inspect their units for similar problems.

Three options are available to ensure that these misters are acceptable to the authority having jurisdiction (AHJ) after the pressure switches are replaced:

1. Schedule a field evaluation by an Underwriters Laboratory (UL) representative from a UL office (preferred option).
2. Conduct an on-Site evaluation using an appropriate electrical subject matter expert and the checklist, Non-NRTL ELECTRICAL EQUIPMENT AHJ APPROVAL REPORT.
3. Have the misters evaluated by a certified UL 508A shop.

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**Keywords:** mister, fan, CoolZone

**References:** NRTL Checklist (available from Fluor Hanford Electrical Safety Program Coordinator, 509-376-1168)